NWS FORM E-5 (11-88) **(PRES. by NWS Instruction 10-924)** **U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER SERVICE**	HYDROLOGIC SERVICE AREA (HSA) **WFO Jackson, Mississippi**
MONTHLY REPORT OF HYDROLOGIC CONDITIONS	REPORT FOR: MONTH YEAR **February 2017**
TO: Hydrometeorological Information Center, W/OH2 NOAA / National Weather Service 1325 East West Highway, Room 7230 Silver Spring, MD 20910-3283	SIGNATURE **Bill Parker, Meteorologist In-Charge** DATE **03/17/2017**

When no flooding occurs, include miscellaneous river conditions, such as significant rises, record low stages, ice conditions, snow cover, droughts, and hydrologic products issued (NWS Instruction 10-924)

☐ **An X inside this box indicates that no river flooding occurred within this Hydrologic Service Area.**

Synopsis…

February was another warmer than normal month. Most of our climate sites had temperatures from 9 to 10 degrees above normal. Temperatures ranged from 8.6 degrees above normal at Greenville and Hattiesburg to 10.1 degrees above at Meridian. Tallulah-Vicksburg and Greenwood-Leflore had their warmest February on record. All other sites were in the top 5 warmest Februarys. All climate sites also ended the winter season (December through February) in the top 5 warmest winters on record. Rainfall for the month was generally below normal. Rainfall south of Interstate 20 experienced rainfall amounts ranging from 20 to 50 percent of normal. North of Interstate 20, rainfall ranged from 45 to 95 percent of normal except for an area along a line from Humphreys County to Webster and Choctaw County where rainfall amounts ranged from normal to around 135 percent of normal.

Weather Highlights…

The month began with warm southerly air flowing into the region. A cold front moved through the Hydrologic Service Area (HSA) bringing the coolest temperatures that would occur in February. Rainfall amounts of a 1/2" or less fell across Southeast Arkansas and northern portions of Mississippi. Scattered light showers fell across the rest of the area.

High pressure built into the area and then moved to the Southeast Coast by the 5th allowing a return flow of warm, moist air back into the region.

A warm front across Central Mississippi slowly moved northward from the early morning hours of the 5th into the 6th. Rain began falling north of interstate 20 with the heaviest rainfall occurring across the most northern areas of the HSA. Rainfall totals ranged from less than ¼" along I-20 to 1½" to 4½"along the highway 82 corridor. With the passing of the warm front, warm unstable air remained in place across much of the HSA on the 6th. A strong short wave moved across the area on the 7th bringing rainfall and some severe weather to areas southeast of the Natchez Trace Parkway. Rainfall amounts of less than 1½" occurred along with many reports of large hail and as well as tornadoes in Scott (EF2) and Jasper (EF1) Counties. This system also brought rare large tornadoes to Southeast Louisiana as well. A modified polar cold front pushed across the area on the 8th bringing only light showers to north and northeast portions of Mississippi. High pressure built into the area late on the 8th and pushed off the Southeast Atlantic Coast by the afternoon of the 10th.

Warm temperatures remained in place until another cold front pushed across the region on the 12th. Across the region north of I-20, widely scattered light rainfall occurred. By the morning of the 13th, the front remained almost stationary off of the Gulf Coast while a closed low over northern Mexico began to push eastward during the day. As the low reached West Texas on the 14th, the old frontal boundary in the northern Gulf of Mexico began pushing northward as a

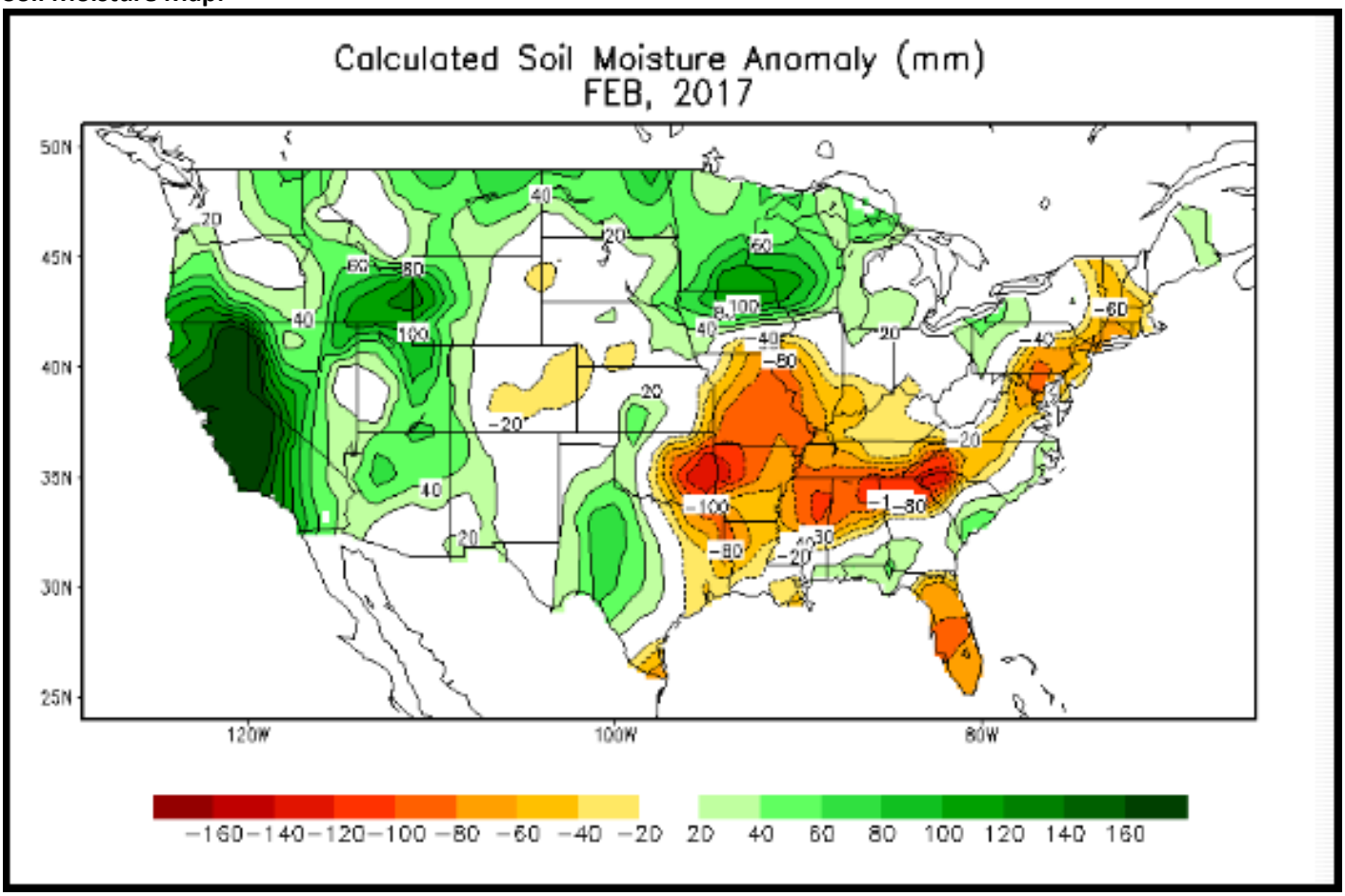
surface low developed over Southeast Texas. The surface low moved across southern portions of the HSA late on the 14th and into the 15th. Much colder air began to filter into the region after the passage of an upper level trough during the afternoon of the 15th. Rainfall amounts ranged from ¼" to ½". High pressure pushed into the area through the 17th. On the 17th, a Southwest low began to move rapidly to the east, rainfall amounts were heaviest across southern portions of the area, ranging from 1/4" to ½". Rain totals north of I-20 were generally 1/4 "or less. Temperature remained unchanged after the upper level system moved across the region.

Another deep trough from the Southwest U.S. moved eastward on the 20th. By the 21st, the trough had become a closed low and moved across the region during the day. Rainfall ranged from ½" to 2" across Southeast Arkansas and Northeast Louisiana. Across Mississippi, rainfall ranged from ¼" in the east to around an inch across the west. Warm temperatures continued after the passage of the upper Low pressure system.

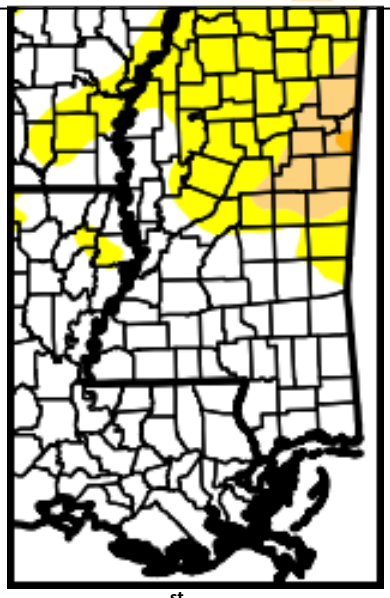
Temperatures cooled down to seasonal norms after the passage of yet another cold front on the 24th. Scattered rain showers mainly northwest of the Natchez Trace Parkway ranged from 1/10" to ½". High pressure moved rapidly across the region and into the western Atlantic by the afternoon of 26th ahead of a fast-moving upper level disturbance. Rainfall on the 27th ranged from ½" to 1½" over all but Southwest Mississippi and southern portions of Northeast Louisiana where less than ¼" fell. A narrow band of heavy showers, ranging from ¼" to 1½", broke out across northwest and northern section of the HSA on the morning of the 28th.

River and Soil Conditions

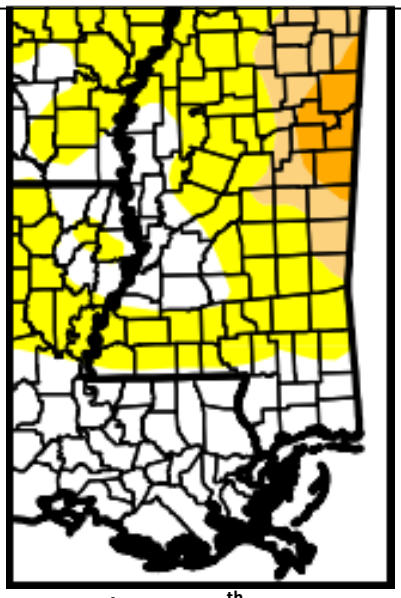
Soil Moisture Map:



Drought Comparison:



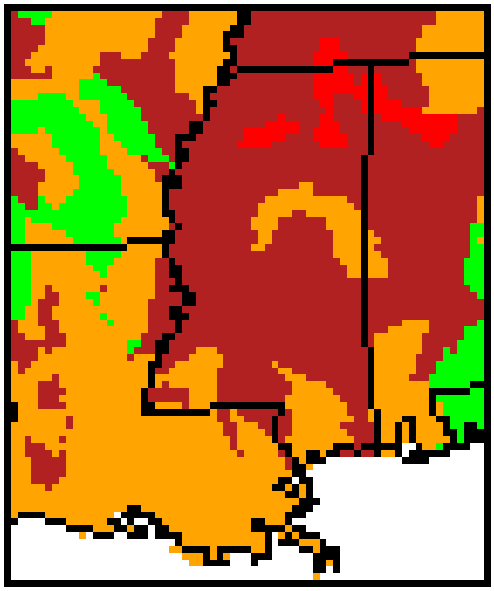
January 31st, 2017

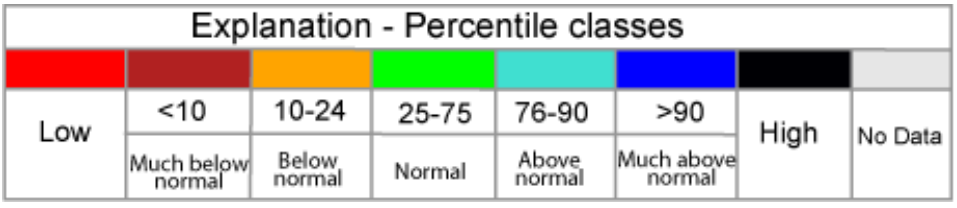


February 28th, 2017

Streamflow:

The United States Geological Survey's (USGS) February 2017 river streamflow records were compared with all historical February streamflow records. Below to much below normal streamflow was observed across all river basins in the WFO Jackson HSA





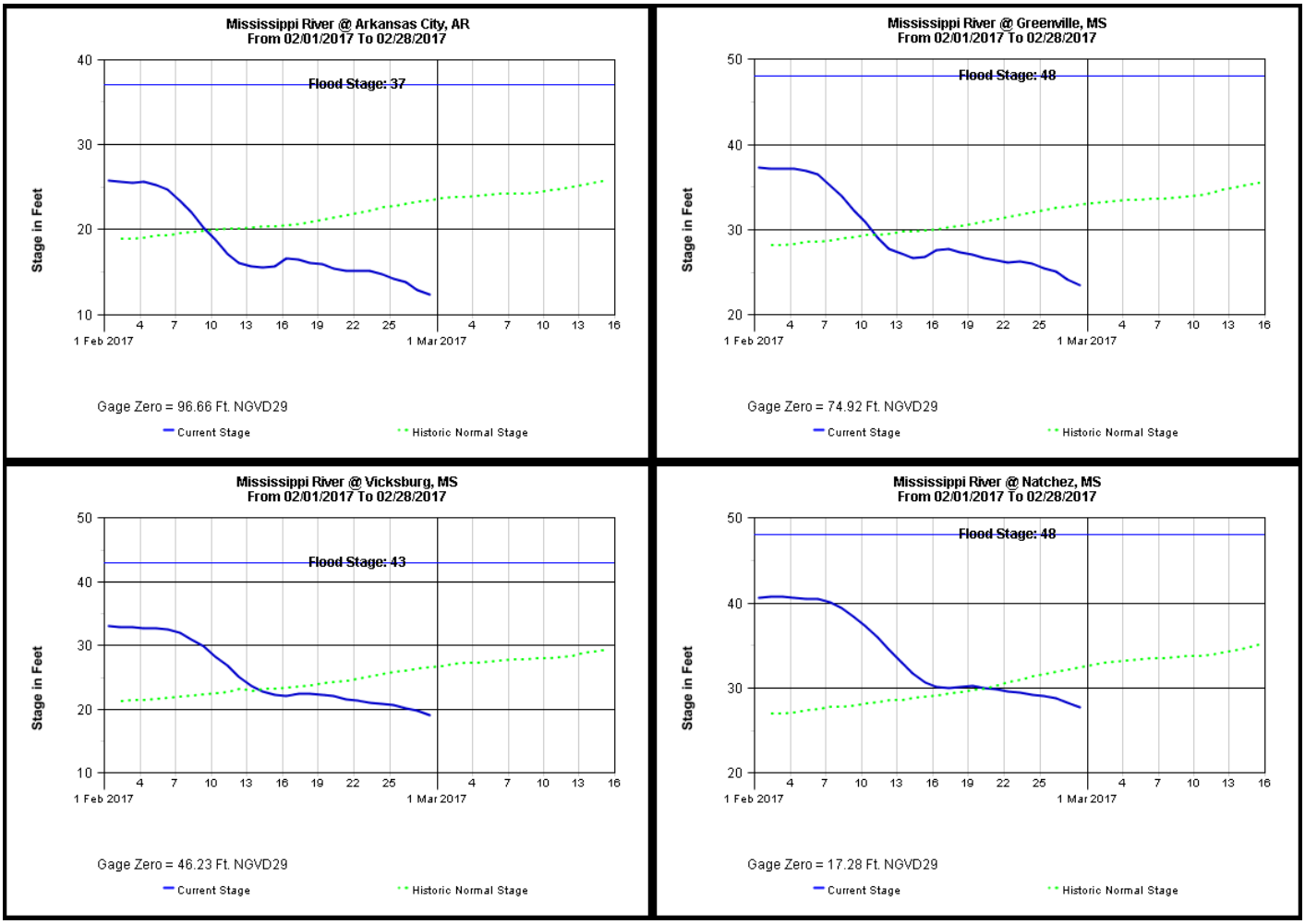
River Conditions:
Heavy rainfall around the 6th across northern portions of Mississippi produced minor flooding along the Upper Big Black River Basin. Minor rises were observed in the Upper Pearl River and the Middle/Lower Big Black Basins. Most other river systems had little to no rises.

Climatic Outlook and Flood Potential:
The climatic outlook shows good chances for above normal temperatures over the next three months for the whole HSA. In regards to precipitation, the outlook indicates that there is a good chance for above normal rainfall south of Interstate 20 while there are equal chances of normal, above normal, or below normal conditions above I-20. Thus, based on current soil moisture, streamflow, and the 3-month climate outlook, the flood potentials are thus:

Pearl River System: Below Normal.
Yazoo River System: Below Normal.
Big Black River System: Below Normal.
Homochitto River System: Below Normal.
Pascagoula River System: Below Normal.
Northeast LA and Southeast AR: Below Normal.
Tombigbee River System: Below Normal.
Mississippi River: Normal.

Mississippi River Plots February 2017
Plots Courtesy of the United States Army Corps of Engineers

Monthly Preliminary High and Low Stages:

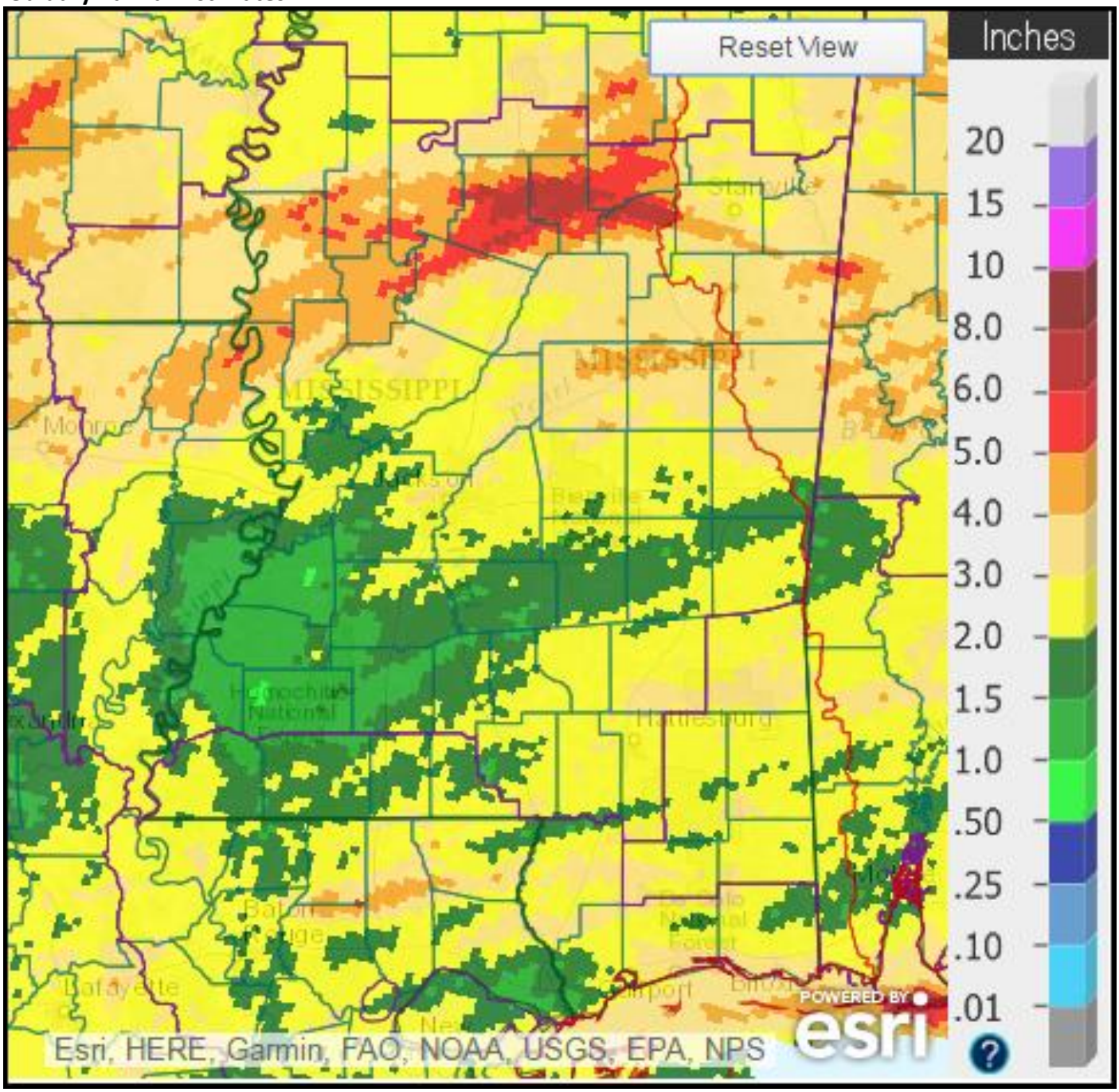


Location	Flood Stage (ft)	High Stage (ft)	Date	Low Stage (ft)	Date
Arkansas City	37	25.78	02/01	12.07	02/28
Greenville	48	37.31	02/01	23.33	02/28
Vicksburg	43	33.09	02/02	18.59	02/28
Natchez	48	40.75	02/03	27.30	02/28

Rainfall for the Month of February

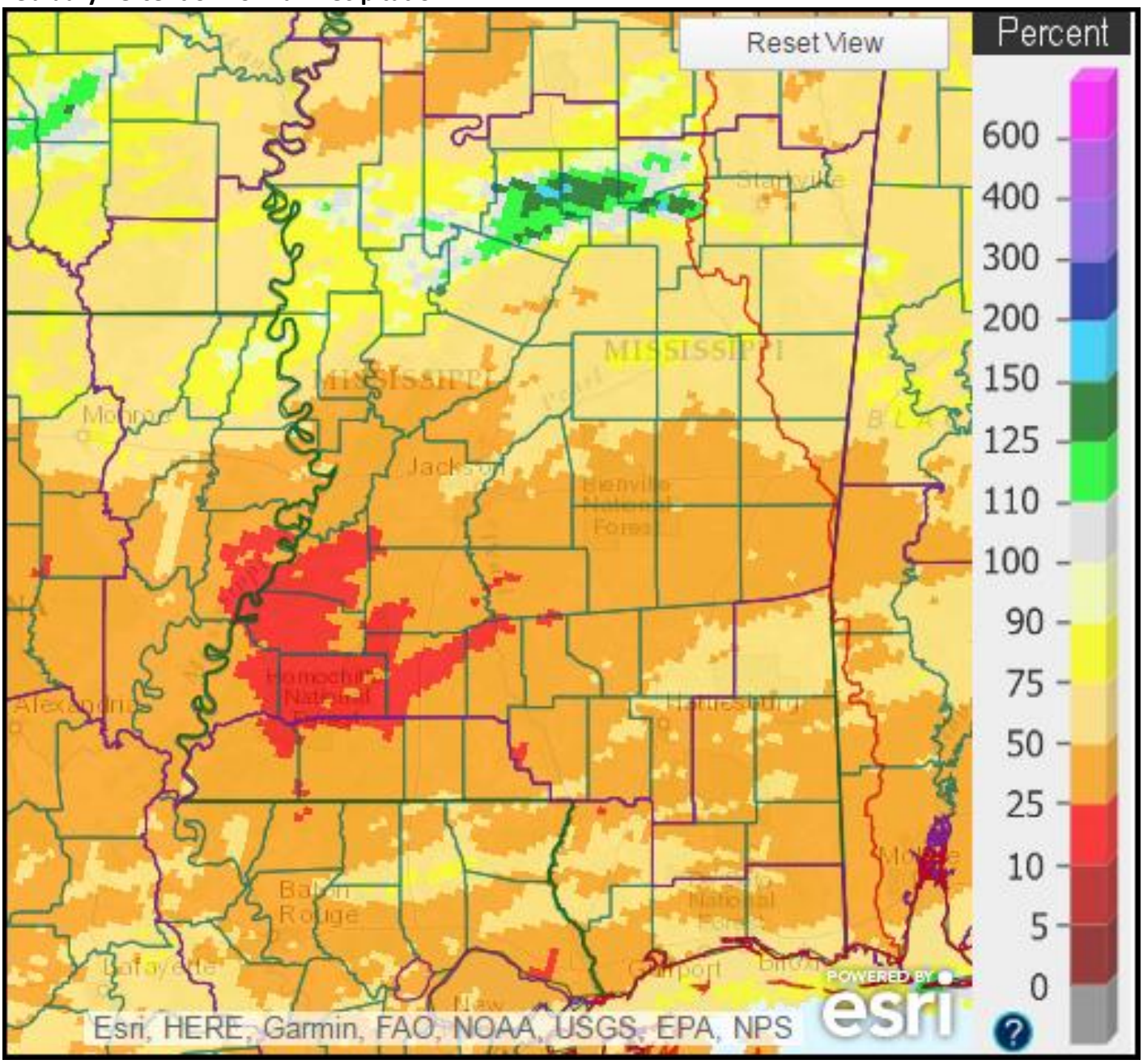
During the period from 7 am January 31st until 7 am February 28th, the largest rainfall amounts from NWS Cooperative Observers were:
Will be added at a later date

February Rainfall Estimates:



Note: Observer rainfall and MPE may differ due to observation time differences.

February Percent of Normal Precipitation:



Note: Observer rainfall and MPE may differ due to observation time differences.

February rainfall for Selected Cities:

City (Airport)	Rainfall	Departure from Normal	2017 Rainfall	2017 Departure from Normal
Jackson (KJAN)	2.31	-2.45	10.21	0.48
Meridian (KMEI)	2.20	-3.40	9.57	-1.16
Hattiesburg (KHBG)	2.53	-2.86	11.60	0.47
Vicksburg (KTVR)	2.53	-2.74	6.76	-3.58
Greenville (KGLH)	2.92	-2.10	8.03	-1.96
Greenwood (KGWO)	4.05	-0.37	8.28	-0.66

Total Flood Warning products issued: 0
Total Flood Statement products issued: 0
Total Flood Advisories MS River: 0
Daily Climate and Ag WX Products (AGO'S) issued: 28
Daily CoCoRaHS Rainfall Products (LCO'S) issued: 28
Daily River and Lake Summary Products (RVD'S) issued: 28

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Note: Provisional stage and precipitation data were furnished with the cooperation of the Mississippi, Louisiana, and Arkansas National Weather Service Cooperative Observer Programs, United States Geological Survey (USGS), United States Army Corps of Engineers (USACE), Pearl River Valley Water Supply District (PRVWSD), Pat Harrison Waterway District, Pearl River Basin Development District, and the Mississippi Department of Environmental Quality.

cc: USGS Little Rock District
USGS Ruston District
USACE Mobile District
USACE Vicksburg District
USACE Mississippi Valley Division
USGS Mississippi District
SRH Climate, Weather and Water Division
Lower Mississippi River Forecast Center
Pearl River Valley Water Supply District
Hydrologic Information Center
Southern Region Climate Center
Pat Harrison Waterway District
Pearl River Basin Development District